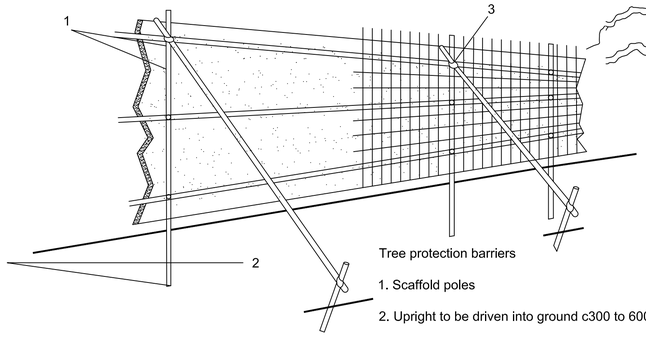
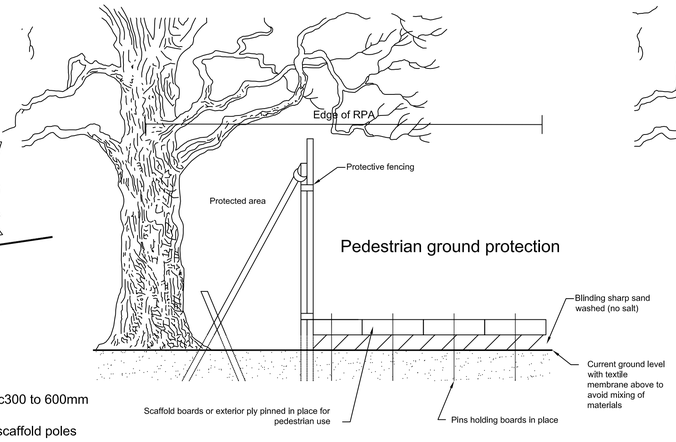


Tree protection barriers

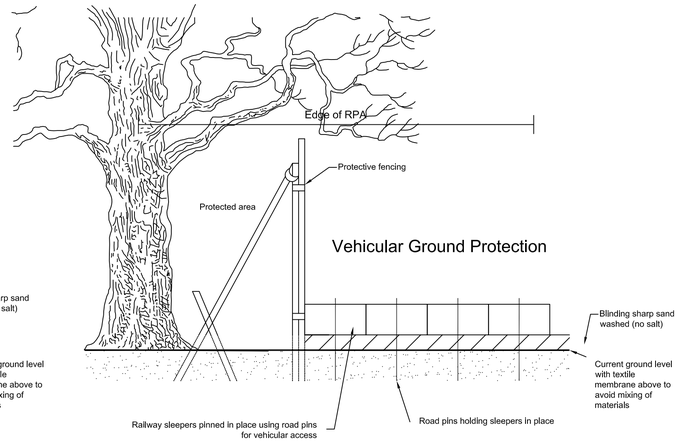
1. Scaffold poles

2. Upright to be driven into ground c300 to 600mm

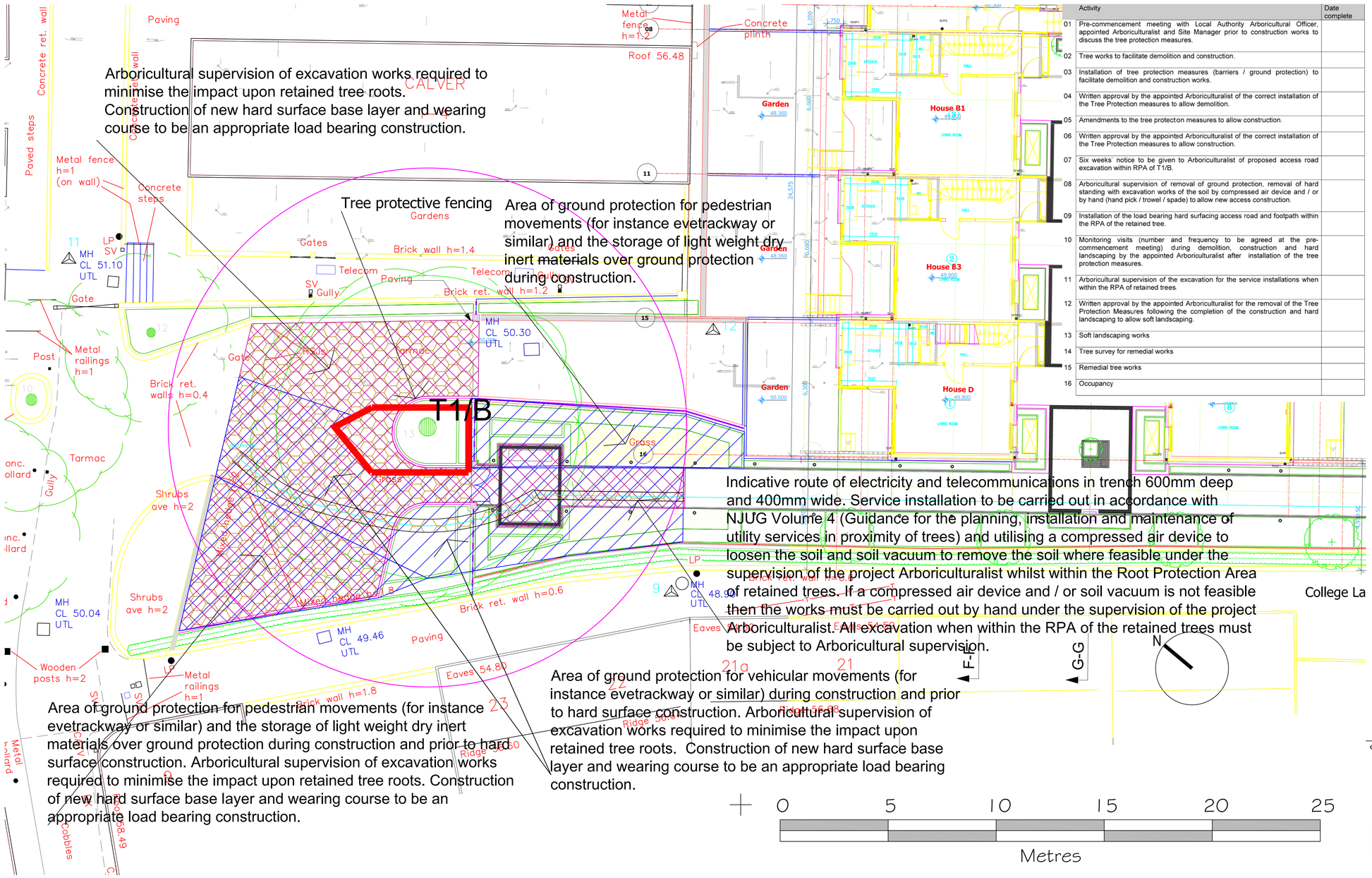
3. Panels or barriers to be fixed to scaffold poles with wire or clips



Pedestrian ground protection



Vehicular Ground Protection



Method Statement Summary / Timing of operations

	Activity	Date complete
01	Pre-commencement meeting with Local Authority Arboricultural Officer, appointed Arboriculturalist and Site Manager prior to construction works to discuss the tree protection measures.	
02	Tree works to facilitate demolition and construction.	
03	Installation of tree protection measures (barriers / ground protection) to facilitate demolition and construction works.	
04	Written approval by the appointed Arboriculturalist of the correct installation of the Tree Protection measures to allow demolition.	
05	Amendments to the tree protecton measures to allow construction.	
06	Written approval by the appointed Arboriculturalist of the correct installation of the Tree Protection measures to allow construction.	
07	Six weeks' notice to be given to Arboriculturalist of proposed access road excavation within RPA of T1/B.	
08	Arboricultural supervision of removal of ground protection, removal of hard standing with excavation works of the soil by compressed air device and / or by hand (hand pick / trowel / spade) to allow new access construction.	
09	Installation of the load bearing hard surfacing access road and footpath within the RPA of the retained tree.	
10	Monitoring visits (number and frequency to be agreed at the pre-commencement meeting) during demolition, construction and hard landscaping by the appointed Arboriculturalist after installation of the tree protection measures.	
11	Arboricultural supervision of the excavation for the service installations when within the RPA of retained trees.	
12	Written approval by the appointed Arboriculturalist for the removal of the Tree Protection Measures following the completion of the construction and hard landscaping to allow soft landscaping.	
13	Soft landscaping works	
14	Tree survey for remedial works	
15	Remedial tree works	
16	Occupancy	

Appendix 1: Method Statement

1. A pre-commencement meeting prior to the start of any works between the Local Authority Arboricultural Officer, appointed Arboriculturalist and Site Manager should take place to clarify any additional protection measures required.

The purpose of the pre-commencement site meeting is to:

- confirm the position of the tree protective fencing and / or ground protection on site;
- discuss any potential conflict with the tree protection measures and identify acceptable solutions;
- understand the timeframe for the demolition and construction phases;
- identify and agree the frequency of Arboricultural site monitoring, recording process and reporting procedure to the Local Planning Authority to aid discharge of relevant planning conditions (appointed Arboriculturalist to issue written report to Site Manager and Local Planning Authority discussing findings from site monitoring).

To aid the demolition and construction phase for the development of the site an Arboriculturalist must be appointed to inspect and monitor the site at the start of the works and on an as required basis throughout the construction works to ensure that the protection procedures are adhered to and to assist with addressing further arboricultural issues that may arise.

2. Tree works may be required in the interest of good arboricultural practice and to facilitate the use of the site once development is complete. These works are listed in the recommendations of theTree Survey schedule. All tree works should be carried out according to BS3998: 2010 'Recommendations for tree works' and carried out by an appropriately competent, experienced, qualified and insured arboricultural contractor.

3. The protective measures, as shown on the drawing "Tree protection plan" and site engineering drawings, should be erected after the tree works and prior to any construction works. Once erected, barriers and ground protection should be considered sacrosanct, and should not be removed or altered without prior recommendation by the appointed arboriculturalist and written approval by the LPA.

The protective barriers and ground protection should be erected according to drawings "Tree protection plan" and Appendix 2: BS5837 survey sheet which is based upon the guidelines in BS5837: 2012 'Trees in relation to construction'.

Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. On all sites, special attention should be paid to ensure that the barriers remain rigid and complete.

Barriers must consist of a >1.2 high scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this barriers or panels should be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and should not be used. If an alternative specification is preferred then it must be agreed in writing with the Local Planning Authority prior to installation.

Ground protection for pedestrian movements (and scaffolding activities) within the RPA must be a single thickness of scaffold boards on top of a compressible layer (for instance bark mulch) laid onto a geotextile membrane, or supported by scaffold (see Appendix 6). If an alternative specification is preferred then it must be agreed in writing with the Local Planning Authority prior to installation.

Ground protection for wheeled or tracked construction traffic movements within the root protection area (RPA) should be designed by an engineer and Arboriculturalist to accommodate the likely loading and may involve the use of proprietary systems (for instance www.evetrakway.co.uk) or reinforced concrete slabs or a series of 20mm thick steel plates held together to ensure that the bulk density of the soil remains lower than 1.5g/cm3. If an alternative specification is preferred then it must be agreed in writing with the Local Planning Authority prior to installation.

These tree protective measures shall be identified and marked on the 'Tree protection plan' and all the approved engineering drawings to be used on site.

4. All site personnel must be briefed by the Site Manager or the Arboriculturalist on the importance of the trees to be retained and the protective measures implemented to aid their retention into the future. The Site Manager is responsible for the implementation of all tree protection measures.

5. Once the construction exclusion zone has been protected by barriers then construction work can commence. All weather notices should be erected on the barriers with words such as "Construction exclusion zone - keep out" (see recommended sign on the Tree Protection Plan).

6. Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to the equipment and retained trees, and might make the safe retention of the retained trees impossible. Consequently, any transit or transverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees and their protection measures is maintained at all times. In some circumstances it may be impossible to maintain adequate clearance thus requiring tree works to clear the necessary access.

Material which will contaminate the soil, e.g. concrete (dry or mixed), diesel, oil, vehicle washings, etc, should not be discharged within 15m of the stem unless onto an impermeable layer with drainage away from retained trees. It is essential that an allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar, diesel or oil cannot run towards the trees.

There should be no fires on the site.

Notice boards, telephone cables or other services should not be attached to any part of the tree.

7. The advice of the appointed Arboriculturalist should be sought where underground structures present within the RPA are / will become redundant. In general it is preferable to seal these off as this avoids the need for significant excavation.

8. Any excavations in proximity of retained trees will require certain precautions to avoid unnecessary damage to trees to be retained, and should be undertaken as follows:

- All excavations should avoid damage to the protective bark covering larger roots. Roots, whilst exposed, should be wrapped in dry, clean hessian sacking to prevent desiccation (drying) and to protect from temperature changes.
- Roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using a proprietary clean cutting tool such as bypass secateurs or handsaw.
- Roots larger than 25mm diameter should only be severed following consultation with the appointed Arboriculturalist, as the roots may be essential to the tree's health and stability.
- Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded by sharp sand (builder's sand should not be used because of its high salt content which is toxic to tree roots), or other loose inert granular fill, before soil or other material is replaced. This material, e.g. general purpose grade topsoil to BS3882, should be free of contaminants and other foreign objects potentially injurious to tree roots.
- Further details are available in NJUG Volume 4 "Guidance for the planning, installation and maintenance of utility services in proximity of trees".
- Any excavation within the RPA of retained trees must be subject to Arboricultural supervision.

9. There are no services to be installed within the RPA of the retained trees, other than as described in the Arboricultural Impact Assessment.

10. There should be no changes in grade within the RPA without prior recommendation by the appointed Arboriculturalist and approval of the LPA.

11. Following completion of the construction and hard landscaping works a site meeting between the Local Authority Arboricultural Officer, appointed Arboriculturalist and Site Manager should take place to assess whether the protective barriers and ground protection can be removed to allow soft landscaping works.

12. Following the completion of the soft landscaping works a tree survey should be undertaken to identify whether additional tree works are required for the safe use of the site and adjacent land users.

Method statement for the removal of the existing hard surfaces.

RPA refers to the Root Protection Area as detailed in Appendix 2: BS5837 Tree Survey.

- The existing hard surface should be broken up, lifted and removed from the RPA from outside the RPA where feasible, or from exiting hard surfaces within the RPA.
- The excavation of the hard surface must not extend into the soil underneath unless specifically determined by an Arboriculturalist. In reality this would mean that the teeth of an excavator bucket should be kept horizontal so that any disturbance to the soil is kept to a minimum. When the hard surface is thin or close to the soil level, the works must be carried out by hand to prevent avoidable unnecessary damage to the tree roots.
- All material, once lifted, must be transported to outside the RPA to prevent compaction or contamination of the tree roots. No material should be stored within the RPA.
- Due care and attention must be undertaken to ensure that machinery or other operations do not cause damage to the above ground parts of the tree.
- Where an existing hard surface is removed and replaced with soil the infill material should be a good quality, weed free aerobic natural topsoil with good crumb structure. Soil samples to be issued to the Arboricultural Consultant for written approval prior to delivery on site where the soil is to be installed within the RPA of retained trees.

General / Key:

Root protection area
Indicative canopy
Barrier fencing
Ground protection
Special surface
Manual excavation

Item reference (T/G/H/W)
Item number (1, 2, etc.)
BS5837 category (A/B/C/U)
For instance: T1/C

Site: College Lane NW5

Data: Site layout and survey data provided by Client.

This drawing is produced in colour. Please ensure that you use a colour printing to ensure that the drawing is correctly interpreted.

Drawing title:

Tree protection plan

Drawing reference: J942

Revision: -

Date: September 2016

Scale: 1/100 on A1

Sheet: 1 of 1

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